MOOREVILLE RIDGE INSECT AND DISEASE RESILIENCE PROJECT

PROPOSED ACTION

Background most of the forested areas in the Mooreville project area are in an overstocked condition and experienced an elevated level of tree mortality caused by bark beetles during the recent drought. Aerial detection surveys have identified an increase in tree mortality for the project area in response to the extremely dry water years of 2014 and 2015. Elevated levels of bark beetle-caused tree mortality in the project area, as well as the rest of the Sierra Nevada range, are strongly associated with periods of below normal precipitation and high stand density. This mortality combined with the existing high stand density has resulted in heavy fuel loading in some areas and a corresponding increase in the risk of stand replacing wildfire.

Proposed Project Location the Mooreville project area is located about 2 miles west and southwest of La Porte, CA at elevations ranging between 3,700 and 5,900 feet (39.681883N and 121.022552W). Annual precipitation ranges between 70 and 90 inches. Most of the area is comprised of Sierra mixed conifer consisting of white fir (*Abies concolor*), Douglas fir (*Pseudotsuga menziesii*), ponderosa pine (*Pinus ponderosa*), sugar pine (*Pinus lambertiana*), incense cedar (*Calocedrus decurrens*), red fir (*Abies magnifica*), California black oak (*Quercus kelloggii*), and Pacific madrone (*Arbutus menziesii*). Most of the lower elevation stands are pine dominated mixed conifer while higher elevation stands are mostly fir dominated mixed conifer. Shade-intolerant pine species are mostly restricted to the overstory with limited regeneration due to overcrowding and dominance of white fir.

Proposed Action the Mooreville project proposes to reduce the risk of insect and disease-caused tree mortality through mechanical thinning. Fuels reduction and maintenance would be accomplished with mastication and prescribed burning. White fir will be removed in favor of retaining other tree species. The residual stands will be more open, increasing the amount of available soil moisture and sunlight for individual trees. We will treat no more than 3,000 acres by:

- Mechanical thinning in pine dominated mixed conifer commercial thinning to remove sawlog-sized trees ranging from 10.0 to 30.0 Inches dbh limit. Cut tree mark using GTR 220 concepts to result in no more than 30% reduction in canopy cover averaged across stands. In California spotted owl (CSO) home range core areas (HRCA) retain a minimum 50% canopy cover. In northern goshawk protected activity centers (PAC) design treatments to maintain habitat structure and function. Maintain a limited operating period;
- Mechanical thinning in fir dominated mixed conifer commercial thinning to remove sawlog-sized trees ranging from 10.0 to 30.0 inches dbh limit. Variable density thin using GTR 220 concepts to target true fir, leaving ponderosa, Jeffrey, and sugar pine, some

incense cedar, and release California black oak and other canopy providing hard woods. In CSO HRCA retain a minimum 50% canopy cover. In PAC design to maintain habitat structure and function. Maintain a limited operating period;

- Plantation thinning inside mechanical thinning stands are pole to small tree-sized plantations that are not suitable owl or goshawk habitat. Thin plantations to about 80-120 square feet/acre basal area emphasizing stand variability;
- Roadside hazard along roadsides in mechanical thinning and service stands remove dead or dying trees, dead parts of live trees, or unstable trees that are likely to fail in the near future and are within striking distance of people, facilities, or roads, following "Hazard tree guidelines for Forest Service facilities and roads in the Pacific Southwest". In PAC, hazard tree removal will be restricted to failure potential 4 (tree is dead) and 3 (high potential for failure). No sawlog diameter limits for hazard tree removal;
- Sub-merchantable biomass trees material may be treated by biomass to landing (unless a market for chips is identified) or follow up hand cut hand pile and burn, hand cut grapple pile and burn, mastication, or under-burning treatments;
- Service work use hand cut pile and burn, hand cut grapple pile and burn, mastication, or targeted grazing as needed where prescribed fire is not feasible or is not feasible without preparation treatments;
- Prescribed fire prioritize acres for burning and design treatments that maximize the use of fire to achieve desired conditions;
- Maintenance hand cutting, hand- and/or grapple-piling, mastication, targeted grazing, and prescribed under-burning as needed on multiple entries over the next15 to 20 years to maintain desired conditions; and
- The project will include road improvements and maintenance.

Mechanical treatments in northern goshawk PAC would require a non-significant amendment to the Forest Plan.

Purpose of Action the project area has become very dense, with a corresponding increase in true fir. With such a high density of white and red fir in the area, shade-intolerant and fire resilient species such as sugar, Jeffrey, and ponderosa pine as well as black oak have declined due to excessive competition for sunlight, water, and nutrients. These are not resilient forest conditions and will likely lead to unacceptable levels of tree mortality from bark beetles and disease or high severity wildfire.

Need for Action improving the resilience of stands to future disturbance events through density, size class, and species composition management will be critical to maintaining a healthy forested landscape. In most cases thinning will effectively reduce completion for limited water and nutrients and reduce the susceptibility to future bark beetle-caused tree mortality for many years. Forest restoration treatments will maximize the retention of large trees, as appropriate for the forest type, to the extent that the trees promote stands that are resilient to insects and disease.